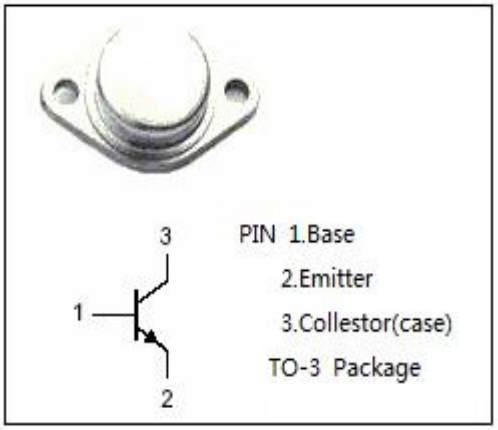
isc Silicon NPN Power Transistor BDY56

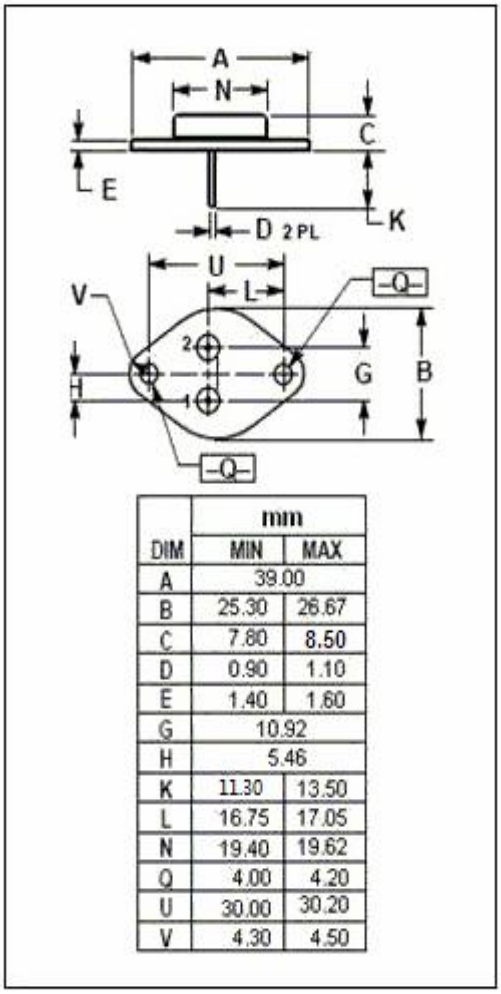
DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
  : h_{FE}=20-70@I_C = 4A
- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 1.1 V(Max)@ I_C = 4A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for general-purpose switching and amplifier applications



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@T_C=25℃	117	W
T_J	Junction Temperature	200	℃
T_{stg}	Storage Temperature	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.5	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C=30mA; I_B= 0	120		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.4A		1.1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 3.3A		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 4A; V_{CE}= 4V		1.8	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 60V; I_B= 0		0.5	mA
I_{CEX}	Collector Cutoff Current	V_{CE}= 150V; V_{BE}=-1.5V V_{CE}= 150V; V_{BE}=-1.5V, T_C=150℃		3.0 30	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0		3.0	mA
h_{FE-1}	DC Current Gain	I_C= 4A; V_{CE}= 4V	20	70	
h_{FE-2}	DC Current Gain	I_C= 10A; V_{CE}= 4V	10		
f_T	Current Gain-Bandwidth Product	I_C= 1A; V_{CE}= 4V; f=10MHz	10		MHz
Switching Times					
t_{on}	Turn-On Time	I_C= 5A; I_B= 1A		0.5	μs
t_{off}	Turn-Off Time	I_C= 5A; I_{B1}= 1A; I_{B2}= -0.5A		2.0	μs